

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS

TYLER DIVISION

BRENT KAY, et al., §  
Intervenor-Plaintiffs, §  
v. § 6:90 CV 582  
UNITED STATES ENVIRONMENTAL §  
PROTECTION AGENCY, et al., §  
Defendants, §  
GIBRALTAR CHEMICAL §  
RESOURCES, INC., §  
Intervenor-Defendants. §

MEMORANDUM OPINION

Pending before the court for adjudication are the following motions: motion of the plaintiffs, a coalition of environmentalists,<sup>1</sup> for summary judgment; motion of defendant, the United States Environmental Protection Agency ("EPA"),<sup>2</sup> for summary judgment; and motion of the intervenor-defendant, Gibraltar Chemical Resources, Inc. ("Gibraltar"), for summary judgment.

---

<sup>1</sup>Plaintiffs are Brent Kay and Kay Kay, who own 500 acres of real property in the vicinity of the injection well at issue in this case; the Texas Environmental Coalition; Concerned Citizens of Winona; the Natural Resources Defense Council ("NRDC"); and the Hazardous Waste Treatment Council ("HWTC"), a national association of commercial firms that provide technologies and services for the treatment and disposal of hazardous wastes.

<sup>2</sup>The Administrator of EPA Region 6, Robert Layton, and the Director of the Water Management Division of EPA Region 6, Myron Knudson, have also been named as individual defendants.

### I. PROCEDURAL CONTEXT OF THE PENDING MOTIONS<sup>3</sup>

On June 26, 1990, plaintiffs filed their lawsuit challenging EPA's December 1989 approval of Gibraltar's petition for an exemption from the statutory ban, or "land ban," on land disposal of certain untreated hazardous wastes, see the Resource Conservation and Recovery Act ("RCRA") § 3004(d)-(g), 42 U.S.C. § 6924(d)-(g).<sup>4</sup> On June 30, 1992, this court granted EPA's motion for a partial remand to reconsider its decision on Waste Disposal Well No. 229 ("WDW-229"), one of the two injection wells at issue, after providing opportunity for public review and comment.<sup>5</sup> In addition, the June 30, 1992, order vacated the exemption for WDW-229 and stayed the litigation on both wells, pending completion of the administrative proceedings. On February 5, 1993, after

---

<sup>3</sup>For a detailed discussion of the background of this civil action, as well as the statutory and regulatory framework, see the memorandum opinion issued by this court in Kay v. EPA, no. 6:92cv582 (E.D. Tex. June 30, 1992).

<sup>4</sup>An exemption to the land ban is allowed only if such exemption is "protective of human health and the environment for as long as the waste remains hazardous." 42 U.S.C. 6924(d)-(g). Pursuant to EPA regulations, to obtain an exemption, Gibraltar, as the operator of a hazardous waste injection well, must demonstrate that "to a reasonable degree of certainty, there will be no migration of hazardous constituents from the injection zone for as long as the wastes remain hazardous." 40 CFR § 148.20(a). The exemption has become known as the "no-migration" exemption. EPA's regulations on the review and approval of no-migration petitions were upheld in Natural Resources Defense Council, Inc. v. EPA, 907 F.2d 1146, 1156 (D.C. Cir. 1990).

<sup>5</sup>WDW-229 had not yet been constructed at the time the exemption was granted. Gibraltar has operated the other injection well, WDW-186, in Winona, Texas, since 1982, in accordance with Texas' underground injection control ("UIC") program. See the Safe Drinking Water Act ("SDWA") § 1421, 42 U.S.C. 300h, and 40 CFR Part 145.

reviewing the public comments and the mechanical integrity testing ("MIT") data, EPA Region 6 published its final decision denying Gibraltar's petition for a no-migration exemption for WDW-229, without prejudice, finding that the well did not meet the construction requirements of the state injection permit, and that the mechanical integrity of that well had not been assured.

Upon completion of the administrative process, EPA and Gibraltar filed responses to the revised motion for summary judgment filed by plaintiffs on March 17, 1993.<sup>6</sup> The defendants also seek to have summary judgment granted in their favor.

## II. DISCUSSION

### A. Judicial Review of EPA's No-Migration Decision

The Administrative Procedure Act ("APA"), 5 U.S.C. §§ 701-06, governs judicial review of EPA's actions under RCRA.<sup>7</sup> The APA requires that agency action be set aside if found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Plaintiffs contend that EPA's decision to grant a permit for injection well WDW-186 was "not in accordance with the law," in that the agency ignored statutory directives and violated the terms of RCRA. See Citizens for a Better Environment v. EPA, 596 F.2d 720, 724 (7th Cir. 1979) (in

---

<sup>6</sup>Plaintiffs have struck the section which deals with WDW-229 from their motion. Accordingly, only those issues which relate to the granting of a no-migration exemption for WDW-186 are before the court for resolution.

<sup>7</sup>A court reviewing final agency action may not limit itself to the summary judgment standards set forth in Rule 56 of the Federal Rules of Civil Procedure, but must also look to the APA's standards of review governing final agency action.

order for an agency's statutory interpretation to be afforded deference, it must be consistent with congressional purpose).

Specifically, plaintiffs argue that the agency failed to apply the proper standard of proof that must be met before it may grant a no-migration exemption. Pursuant to RCRA, a no-migration exemption may only be granted where the applicant demonstrates, "to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the . . . injection zone for as long as the wastes remain hazardous." 42 U.S.C. § 6924(g)(5) (emphasis added). Plaintiffs equate the reasonable degree of certainty standard with the level of proof required in criminal cases -- beyond a reasonable doubt -- and take the position that, if there is any uncertainty whatsoever about whether wastes may migrate from the injection zone over 10,000 years, the permit must be denied.

Plaintiffs' position is not convincing. While the no-migration requirement set forth in RCRA would seem to impose a higher standard of proof than does the preponderance of the evidence standard generally required in civil cases, it certainly does not approach the level of proof required to convict an individual for a crime. The term "reasonable certainty" takes on different meanings depending on the context in which it is applied, varying in degree from the more stringent burden of proof, found in criminal cases, to a somewhat lower standard, applied in some civil cases. Compare U.S. v. Corral-Villavicencio, 753 F.2d 785, 788 (9th Cir. 1985) ("reasonable certainty" does not require proof beyond a reasonable doubt; instead, search by customs agents is

justified where agents have a firm belief that a border crossing has occurred); State v. Benner, 40 Ohio St. 3d 301, 533 N.E.2d 701, 714 (1988), cert. denied, 494 U.S. 1090 (1990) ("reasonable certainty," in a criminal case, requires that the fact to be proven be found extremely likely) with Lane v. State Farm Mut. Auto. Ins. Co., 209 Neb. 396, 308 N.W.2d 503, 512 (1981) ("reasonable certainty" and "reasonable probability" are similar concepts).

EPA interprets the "reasonable degree of certainty" standard to require that the petitioner provide "reasonably trustworthy information and data such that the totality of the facts and circumstances within the agency's knowledge be sufficient, in light of its scientific and technical expertise, to warrant a firm belief that no migration of hazardous constituents from the injection zone will occur in 10,000 years." EPA Brief at 17 n.10.<sup>8</sup> This definition closely tracks the standard set forth in Corral-Villavicencio, in which it was noted that the reviewing court must consider "in detail the facts of each case." 753 F.2d at 788.

EPA's interpretation of the statutory standard is reasonable, and is not contrary to law.<sup>9</sup> See Chevron, U.S.A., Inc. v. Natural

---

<sup>8</sup>EPA, in its brief, admits that Congress intended the "reasonable degree of certainty" standard to impose a higher burden of proof than the "preponderance of the evidence" standard.

<sup>9</sup>While the RCRA land ban evidences Congress' intent to discourage the use of land facilities, such as injection wells, for the disposal of hazardous wastes, see Chemical Mfrs. Ass'n v. EPA, 919 F.2d 158, 160 (D.C. Cir. 1990), the exception allowed in 42 U.S.C. § 6924(d) establishes an avenue by which such facilities may be approved if the ban is not required to protect human health and the environment. Where Congress has provided such an exception, it may not be "written out" of the statute by the reviewing court.

Resources Defense Council, Inc., 467 U.S. 837, 843 (1984); Vermont v. Thomas, 850 F.2d 99, 102 (2nd Cir. 1988). See also EPA v. National Crushed Stone Ass'n, 449 U.S. 64, 83 (1980). EPA applied the proper standard of proof to the permit proceedings for WDW-186; accordingly, the court, while it will consider in detail the facts of the case, must apply the more deferential "arbitrary and capricious" standard of review to EPA's permit decision. 5 U.S.C. § 706(2)(A).<sup>10</sup>

The scope of review under the arbitrary and capricious standard is narrow; the agency need only "articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co., 463 U.S. 29, 43 (1983) (citing Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 168 (1962)). See Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 904 (5th Cir. 1983) (reviewing court is to hold agency to a standard of rationality). With regard to the agency's factual findings, "the function of the district court is to determine whether or not as a matter of law the evidence in the administrative record permitted the agency to make the decision that it did." Occidental Engineering Co. v. INS, 753 F.2d 766, 769 (9th Cir. 1985). The court is not to substitute its judgment for

---

<sup>10</sup>The United States District Court for the Southern District of Texas has held that the arbitrary and capricious standard of review applies to EPA's decision to grant a no-migration permit on two occasions. See Texans United v. EPA, no. 90-3133 (S.D. Tex. 1992); Brazoria County, Texas v. EPA, nos. G-90-207 and G-90-255 (S.D. Tex. 1992).

that of the agency, Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971), particularly in areas that involve technical or scientific matters within the agency's area of expertise. Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, Inc., 462 U.S. 87, 103 (1983).

However, the arbitrary and capricious standard does not require the court to "rubber stamp" an agency's decision. As discussed above, if the agency does not "reasonably accommodate the policies of a statute or reaches a decision that is 'not one that Congress would have sanctioned,'" the reviewing court must intervene in the decisionmaking process. Natural Resources Defense Council, Inc. v. Herrington, 768 F.2d 1355, 1383 (D.C. Cir. 1985) (citations omitted). Moreover, the agency's decision may be found arbitrary and capricious where the agency failed to consider relevant factors. See Volpe, 401 U.S. at 416; Baltimore Gas & Elec. Co., 462 U.S. at 105-06 (1983); Ethyl Corp. v. EPA, 541 F.2d 1, 34 (D.C. Cir. 1976), cert. denied, 426 U.S. 941 (1976).

B. EPA's Decision Satisfies the Arbitrary and Capricious Standard

1. Potential Migration of Wastes through Abandoned Boreholes

In order to obtain a no-migration exemption, a petitioner is required to locate, identify, and ascertain the condition of all wells within the area of review to ensure that there are no improperly completed or unplugged wells that might permit the migration of wastes from the injection zone. 40 CFR 148.20(a)

(2)(ii).<sup>11</sup> Plaintiffs claim that Gibraltar has failed to demonstrate that waste will not migrate up an abandoned oil and gas well, known as the Ogg McClung Well #1, located 8,500 feet from WDW-186, and that EPA ignored a Texas Railroad Commission ("TRRC") report on problems with unplugged or improperly plugged wells in Texas, which plaintiffs submitted during the public comment period.<sup>12</sup> EPA found that Gibraltar had adequately demonstrated that the Ogg McClung well was properly plugged and that the plug, and the existence of mud within the well, together with the pressure relationships within the Woodbine formation, would result in no migration from the injection zone.<sup>13</sup> EPA also considered a TRRC report on the Ogg McClung well which supported Gibraltar's position that the well was adequately plugged to prevent migration. In addition, EPA relied on worst-case-scenario modelling presented by Gibraltar, which demonstrated that the waste would be contained within the injection zone even if the Ogg McClung well had not been properly plugged. EPA found this data to be reliable, and

---

<sup>11</sup>The "injection zone" is the geological formation, group of formations, or part of a formation which receives fluids through the injection well. 40 CFR § 146.3. The Woodbine formation serves as the injection zone for WDW-186. The "area of review" for a Class I well is the 2-mile radius around the well bore. 40 CFR § 146.63. In certain cases, EPA may specify a larger area of review. 40 CFR § 146.63. The area of review for WDW-186 was calculated to be the area within a 2.5 mile radius of the well.

<sup>12</sup>The TRRC is the state agency which has responsibility for identifying abandoned oil and gas wells and verifying that such wells have been properly plugged.

<sup>13</sup>Gibraltar's reports show that current oil production in East Texas Fields keeps pressure down, thereby preventing waste from migrating up through abandoned boreholes.



determined that there would be no migration from abandoned boreholes, including the Ogg McClung well.

Plaintiffs allege that the Ogg McClung well is not adequately plugged, in that the cement plug is located at 200 to 2,100 feet below the surface, instead of at the top of the injection zone, and that the location of the plug could result in migration out of the injection zone up to the top of the plug. They also claim that Gibraltar's assumptions on the underpressurized nature of the Woodbine formation are "incorrect over the long term." In support of their challenges, plaintiffs cite a TRRC report which states that additional funding is required to respond to a number of improperly plugged oil and gas wells in Texas. EPA properly considered this document, along with the TRRC report specifically dealing with the Ogg McClung well, and concluded that Gibraltar had proven that there were no improperly completed or unplugged wells that might permit the migration of wastes from the injection zone.<sup>14</sup> Gibraltar was also required to provide information concerning oil production rates in East Texas Fields and analyze the relationship between oil production and pressure in the reservoir. EPA was satisfied that the data supported a finding of no migration.

---

<sup>14</sup>In so doing, EPA satisfied its obligations under the APA to respond fully to public comments. See Rodway v. Dept. of Agriculture, 514 F.2d 809, 816-17 (D.C. Cir. 1975). Although EPA did not specifically discuss the TRRC report submitted by plaintiffs in its response to plaintiffs' comments, the APA does not require an agency to "discuss every item of fact or opinion included in the submissions made to it." Automotive Parts & Accessories v. Boyd, 407 F.2d 330, 338 (D.C. Cir. 1968).

EPA has the discretion to base its decision upon the evidence that it considers most technically accurate and reliable. See Environmental Defense Fund v. EPA, 598 F.2d 62, 83-85 (D.C. Cir. 1978). In the face of conflicting evidence, the reviewing court must uphold the agency's decision if, in light of all of the evidence on record, a reasonable mind might accept the evidence as adequate to support the agency's conclusion. Id. at 85. See also Hercules v. EPA, 598 F.2d 91, 106-09 (D.C. Cir. 1978). EPA's determination that abandoned boreholes in the area would not provide a pathway for migration is supported by the evidence on record, and must, therefore, be upheld.

**2. EPA's Reliance on Texas Permit Decisions Regarding the Construction of WDW-186**

WDW-186 is a Class I hazardous waste well, which is one of several types of underground injection wells found throughout the United States. Class I hazardous waste wells are defined as wells used to inject hazardous wastes beneath the lowermost formation containing, within one-quarter mile of the well bore, an underground source of drinking water. 40 C.F.R. § 146.5(a). The underground injection of wastes through WDW-186 is subject not only to Subtitle C of RCRA, 42 U.S.C. §§ 6921-6939b, regulating the disposal of hazardous wastes, but also to the Safe Drinking Water Act ("SDWA"), 42 U.S.C. § 300f-300j, which prevents underground injection which might endanger underground sources of drinking water ("USDWs"), and regulates the "subsurface emplacement of fluids by well injection." 42 U.S.C. § 300h(d)(1). Thus, in order to dispose of untreated hazardous wastes into the ground by

injection well, Gibraltar must obtain two permits: one from the state of Texas pursuant to the underground injection control ("UIC") program under SDWA,<sup>15</sup> and another from the EPA in accordance with RCRA. Gibraltar was issued a UIC permit for WDW-186 in 1980, and the well has been active since January 1982.

In order to obtain a UIC construction and operation permit from the state agency, the permittee must establish that the well is constructed to prevent movement of fluids into a USDW or any unauthorized zones. See 40 CFR §§ 144.12, 144.52, 146.65(a)(1). In order to satisfy the no-migration requirements and obtain a RCRA hazardous waste permit, a permittee must establish the mechanical integrity of the well. 40 CFR § 148.20(a)(2)(iv).

In accordance with the no-migration regulations, Gibraltar submitted mechanical integrity and radioactive tracer tests to EPA. EPA reviewed the tests, and determined that no fracturing had taken place which would adversely affect the confining capabilities of the well. Based on this data, EPA concluded that WDW-186 had satisfied the mechanical integrity tests.

Plaintiffs claim that EPA must independently review all aspects of well construction before making a determination of mechanical integrity, and that it may not rely on well construction

---

<sup>15</sup>SDWA § 1422(b), 42 U.S.C. § 300h-1(b), directed EPA to develop standards which state programs must meet in order to be given primary responsibility for enforcement of the UIC program in that state. See 40 CFR Parts 144, 145, and 146. Texas received primary enforcement authority for its UIC program in 1982. Under SDWA, the state of Texas regulates the construction and operation of most injection wells within its geographic boundaries. See 47 Fed. Reg. 618 (Jan. 6, 1982); 40 CFR § 147.2200.

data obtained during the state UIC permitting process. EPA agrees that the RCRA "no-migration" standard is more stringent than the SDWA "no endangerment" standard, and that the agency is required to examine the well integrity data that is relevant to the no-migration process. However, EPA and Gibraltar dispute plaintiffs' contention that an independent review of well construction data is required under RCRA.

A requirement that EPA independently review all well construction data obtained during the state UIC permitting process would undermine the state's role as primary regulator of issues pertaining to the construction and safety of Class I hazardous waste wells, see 53 Fed. Reg. 28,118, 28,128 (July 26, 1988). Moreover, to adopt plaintiffs' argument would result in duplication of regulatory requirements, a position which was expressly rejected at the time the RCRA regulations were promulgated. See 53 Fed. Reg. 28,128 (finding that to incorporate all of the UIC requirements into the no-migration process would result in a "dual and redundant permitting and enforcement scheme on top of those run by UIC primary states," and that the submission of mechanical integrity and radioactive tracer tests would establish integrity to a reasonable degree of certainty).<sup>16</sup>

Although the regulations do not require EPA to independently

---

<sup>16</sup>Plaintiffs may not challenge the no-migration regulations in this proceeding, as any such challenge would be untimely. See RCRA § 7006(a), 42 U.S.C. § 6976(a). Moreover, this court is without jurisdiction to review challenges to the regulations. Id. (jurisdiction limited to the United States Court of Appeals for the District of Columbia).

review all of the UIC well construction and operating requirements when evaluating a no-migration petition, EPA has the discretion to review construction and operations data in the no-migration process if it believes that the circumstances warrant such examination. See 40 CFR § 148.22(a)(3) (EPA can require additional information to support the petition). In the present case, EPA considered various construction and cementing data, and determined that the mechanical integrity of WDW-186 had been established. EPA's conclusion was in accordance with RCRA and the regulations, was based upon evidence on record, and was not arbitrary and capricious.

### 3. Identification of Wastes to be Injected

To make its no-migration finding, EPA is required to evaluate information on hydrogeological and geochemical conditions at the site, and the physiochemical nature of the waste stream to be injected, to determine whether reliable fluid movement predictions can be made. 40 CFR § 148.20(a)(1). The petition for an exemption must include an identification of the specific waste or wastes involved, and a waste analysis which fully describes the chemical and physical characteristics of the wastes. 40 CFR § 148.22(a)(1),(2).

Plaintiffs contend that Gibraltar has failed to provide sufficiently specific information about the wastes to be injected in WDW-186. Gibraltar's petition identified the wastes as a listed hazardous waste under Subpart D of 40 CFR Part 261 or a characteristic hazardous waste under Subpart C of 40 CFR Part 261.

EPA states that, because each waste code contained in Part 261 identifies a specific waste with specific chemical and physical properties, EPA already has extensive data on the chemical and physical properties of listed and characteristic wastes, and that, therefore, the requirements of 40 CFR § 148.22(a) are satisfied.

Gibraltar further identified the wastes it intended to inject into WDW-186 as falling within one of four blends: weak acids, organic waste solutions, weak alkaline waste, and neutral aqueous waste with dissolved salts. The petition also described the characteristics typical of each category. Finally, EPA required laboratory analyses to ensure that wastes are compatible with the geological formation, and reviewed Gibraltar's Waste Compatibility Plan, which requires proper blending and injection of neutral spacer fluids between reactive blends.<sup>17</sup> Based on this information, EPA determined that Gibraltar had provided ample information concerning the compatibility of wastes to be injected with the site geochemistry to show that reliable predictions could be made that there would be no migration of hazardous wastes from the injection zone. This determination is not arbitrary and capricious.<sup>18</sup>

---

<sup>17</sup>The petition for exemption further states that Gibraltar will conduct pre-injection monitoring and treatment of its waste streams.

<sup>18</sup>The Southern District of Texas has upheld no-migration exemptions based on petitions which, like Gibraltar's, referenced RCRA waste codes and characterized wastes as weak acids to weak bases. Brazoria County, Texas v. EPA, nos. G-90-207 and G-90-255 (S.D. Tex. April 23, 1992); Texans United v. EPA, no. 90-3133 (S.D. Tex. Jan. 13, 1992).

#### 4. Geologic Faults as Migration Pathways

Finally, to demonstrate no-migration, Gibraltar was required to "identify the strata within the injection zone which will confine fluid movement above the injection interval and include a showing that this strata is free of known transmissive faults of (sic) fractures and that there is a confining zone above the injection zone." 40 CFR § 148.20(b).<sup>19</sup> EPA evaluated several types of information submitted by Gibraltar, including geologic maps, structural maps, well logs, and structural cross sections. Based on its review of the material contained in the petition, EPA found that the area is geologically suitable for underground injection, and determined that the confinement interval and confining zone is free of transmissive faults which could provide a migration pathway for wastes.

Plaintiffs allege that Gibraltar failed to examine several faults, and that EPA failed to require site-specific information as to each fault. EPA states that the faults listed by plaintiffs were not studied because they are outside the 10,000 year waste plume.<sup>20</sup>

EPA's conclusion regarding the absence of transmissive faults,

---

<sup>19</sup>A "fault" is a break, or tear, in the rock section, resulting from stress. A "transmissive fault" is a fault "that has sufficient permeability and vertical extent to allow fluids to move between formations." 40 CFR § 148.2.

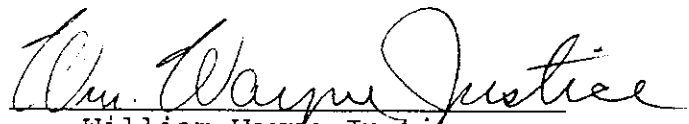
<sup>20</sup>EPA determined that the faults listed by plaintiffs will not come into contact with the four-mile maximum worst-case-scenario movement of the waste plume, and that the additional data would therefore be irrelevant to the determination of no-migration for WDW-186.

a highly scientific and technical matter within EPA's area of expertise, is based on the evidence in the record, and is entitled to substantial deference from the reviewing court. See Baltimore Gas & Elec. v. Natural Resources Defense Council, Inc., 462 U.S. at 103; Federal Power Commission v. Florida Power & Light Co., 404 U.S. 453, 463 (1972). Accordingly, EPA's determination will not be disturbed.

### III. CONCLUSION

In sum, plaintiffs are concerned that the integrity of WDW-186 is not sufficient to preclude migration of hazardous wastes for 10,000 years. The record shows that EPA properly considered the long-term effects of the injection of wastes through WDW-186, and reasonably concluded that Gibraltar has met the no-migration standard, as required in order to obtain an exemption to RCRA's land-ban. Accordingly, EPA's decision to grant a no-migration exemption for WDW-186 will be affirmed. An order to that effect will issue concurrently with this opinion.

SIGNED this 3rd day of August, 1993.

  
William Wayne Justice  
United States District Judge